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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,304	04/25/2008	George V. Franks	051793.0001.PCUS02	6734

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EXAMINER	
HRUSKOCI, PETER A	
ART UNIT	**PAPER NUMBER**
1778	

NOTIFICATION DATE	DELIVERY MODE
09/26/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspt@polsinelli.com

Office Action Summary	Application No.	Applicant(s)	
	10/599,304	FRANKS ET AL.	
	Examiner	Art Unit	
	/Peter A. Hruskoci/	1778	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *66-103* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *66-103* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/6/11*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim 103 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. It is submitted that the steps of providing a solids-rich phase and a liquid-rich phase, and separating the phases, appear to be recited in claims 66 and 67.

Claims 90 and 103 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 90 is considered incomplete because it is essential that the photosensitive molecule be utilize with a specific change of light wavelength in view of page 47, of the instant specification. In claim 103 "said two phases" lacks clear antecedent basis.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 66-75, 77-85, 96, and 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al. 4,279,756. Weiss et al. disclose (see col. 3 line 17 through col. 8 line 25) a method of separating solid particles from a suspension or consolidating a bed of solid particles, and forming a solids rich phase and a liquid rich phase substantially as claimed. The claims differ from Weiss et al. by reciting that the methods include applying one or stimuli to the suspension or bed to control inter-particle forces between solid particles. It is submitted that the addition of the coagulant/adsorbent, caustic soda, polyelectrolytes, and natural polymeric

flocculants in Weiss et al. would appear to apply a stimuli including a change in pH, that is patentably indistinguishable from the stimuli applied in the instant claims. It would have been obvious to one skilled in the art to modify the method of Weiss et al. by applying the recited stimuli, to aid in removing the solid particles from the suspension. With regard to claims 73 and 74, it is submitted that the method of Weiss et al. appears to be capable of operating with substantially ultraviolet to substantially visible light. The specific wavelength of light utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific suspension separated, and results desired, absent a sufficient showing of unexpected results. With regard to claims 83-85, it is submitted that the teachings of Weiss et al. as applied above, include the use of acrylic acid polymers and polysaccharides such as starch, respectively.

Claims 86-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al. 4,279,756 as above, and further in view of Guillet et al. 4,536,294. The claims differ from Weiss et al. by reciting that the methods include the use of specific temperature-sensitive polymers. Guillet et al. disclose (see col. 2 line 19 through col. 6 line 27, and Example 16) that it is known in the art to utilize the recited polymers, to aid in flocculating clay fines and settling the flocculated clay fines from aqueous suspensions. It would have been obvious to one skilled in the art to modify the method of Weiss et al. by utilizing the recited polymers in view of the teachings of Guillet et al., to aid in removing the solid particles from the suspension.

Claims 97-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al. 4,279,756 as above, and further in view of Lissant 3,194,758. The claims differ from Weiss et al. by reciting that the methods include the use of specific copolymers. Lissant disclose (see

col. 1 line 23 through col. 2 line 65, and col. 9 line 1 through col. 10 line 19) that it is known in the art to utilize the recited copolymers, to aid in agglomerating solids and settling the agglomerated solids from aqueous suspensions. It would have been obvious to one skilled in the art to modify the method of Weiss et al. by utilizing the recited copolymers in view of the teachings of Lissant, to aid in removing the solid particles from the suspension. The specific block or comb copolymers utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific suspension or bed treated and results desired, absent a sufficient showing of unexpected results.

Claims 66 and 67 properly written to overcome the above 35 USC 112 rejections and to include claim 90, would be allowable.

With regard to applicants argument concerning the above 35 USC 112 rejection, it is submitted that the use of the photosensitive molecule as a stimulus appears to require a change in the light wavelength for reversible conditioning of the suspension to occur, in view of page 47 of the instant specification.

Applicants argue that the Weiss et al. method does not provide for further consolidation and liberation of liquid otherwise trapped among the solid particles as in the instant method, since the colloidal materials removed from the liquids in Weiss are washed away, and the gel particles are regenerated with no consolidation step. It is submitted that separation stage 4 as disclosed in col. 8 lines 9-25 and shown in Fig. 2 of Weiss et al. appears to include a consolidation of solids or coagulent/absorbent, and the liberation of a separated liquid or effluent.

Applicants allege that the instantly claimed method provides for the distinct advantage of obtaining a sediment bed, filter cake, or thickening underflow largely devoid of liquid relative to those in the art, thus providing improved processing thereof. It is submitted that method steps for obtaining a specific bed, filter cake, or thickening underflow, are not recited in the instant claims. Furthermore, applicants have not provided sufficient comparative evidence with the prior art utilized in the above rejections, to support the above allegation.

Applicants arguments concerning Guillet et al. and Lissant are based on the propriety of Weiss et al., which is deemed properly applied for reasons stated above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Peter A. Hruskoci/ whose telephone number is (571)272-1160. The examiner can normally be reached on Monday through Friday from 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter A Hruskoci/
Primary Examiner
Art Unit 1778

9/19/11